WE CLAIM

1. A method of generating modulator output signal values when employing a multi-level modulation method, the method comprising:

storing a pre-defined number of values corresponding to data symbols and representing a signal or a pulse format,

selecting values representing a signal or a pulse format to be used to define in-phase and quadrature component values,

defining in-phase and quadrature component values using the selected values representing a signal or a pulse format,

defining modulator output signal values by summing in-phase and quadrature component values while the number of in-phase and quadrature component values to be summed is determined by the number of inter-dependent symbols.

2. A method as claimed in claim 1, wherein the output signal values being formed are base-band values.

3. A method as claimed in claim 1, wherein the values representing a signal or a pulse format are stored in a look-up table.

4. A method as claimed in claim 1, wherein the values representing a signal or a pulse format are stored in a format which also comprises an offset-rotation of the signal.

5. A method as claimed in claim 1, further comprising storing, according to the modulation method, values corresponding to each data symbol and representing a signal or pulse format.

6. A method as claimed in claim 1, wherein at least one value corresponding to data symbols and representing a signal or a pulse format used to define in-phase and quadrature values is formed of one real-value signal.

7. A method as claimed in claim 1, wherein at least one value corresponding to data symbols and representing a signal or a pulse format used to define in-phase and quadrature values is formed of two real-value signals.

8. A method as claimed in claim 1, wherein in 8-PSK modulation, a corresponding 16-PSK-modulated symbol is defined, and a decision is made on which one of the stored values representing a signal or a pulse format is used to form the output signal value and what are the signs of the values representing a signal or a pulse format in the output signal value summing expression of the modulator.

9. A method as claimed in claim 1, wherein the number of inter-dependent symbols is determined on the basis of the properties of the system filter.

10. A method as claimed in claim 1, wherein the modulation method is multi-level phase shift keying.

11. A method as claimed in claim 1, wherein the values representing a signal or a pulse format are samples of a modulating signal.

12. A transmitter in which modulator output signal values are generated by a multi-level modulation method, the transmitter comprising:

means for storing a pre-defined number of values corresponding to data symbols and representing a signal or a pulse format,

means for selecting values representing a signal or a pulse format to be used to define in-phase and quadrature component values,

means for defining in-phase and quadrature component values using the selected values representing a signal or a pulse format,

means for defining modulator output signal values by summing in-phase and quadrature component values while the number of in-phase and quadrature component values to be summed is determined by the number of inter-dependent symbols.

13. A transmitter as claimed in claim 12, wherein he output signal values to be formed are base-band values.

14. A transmitter as claimed in claim 12, wherein the values representing a signal or a pulse format are stored in a look-up table.

15. A transmitter as claimed in claim 12, wherein the values representing a signal or a pulse format are stored in a format which also comprises an offset-rotation of the signal.

16. A transmitter as claimed in claim 12, further comprising means for storing, according to the modulation method, values corresponding to each data symbol and representing a signal or a pulse format.

17. A transmitter as claimed in claim 12, wherein at least one value corresponding to data symbols and representing a signal or a pulse format used to define in-phase and quadrature values is formed of one real-value signal.

18. A transmitter as claimed in claim 12, wherein at least one value corresponding to data symbols and representing a signal or a pulse format used to define in-phase and quadrature values is formed of two real-value signals.

19. A transmitter as claimed in claim 12, wherein in 8-PSK modulation, a corresponding 16-PSK-modulated symbol is defined, and a decision is made on which one of the stored values representing a signal or a pulse format is used to form the output signal value and what are the signs of the values representing a signal or a pulse format in the output signal value summing expression of the modulator.

20. A transmitter as claimed in claim 12, wherein the number of inter-dependent symbols is determined on the basis of the properties of the system filter.

21. A transmitter as claimed in claim 12, wherein the modulation method is multi-level phase shift keying.

22. A transmitter as claimed in claim 12, wherein the values representing a signal or a pulse format are samples of a modulating signal.

23. A transmitter in which modulator output signal values are generated by a multi-level modulation method, the transmitter is configured to:

store a pre-defined number of values corresponding to data symbols and representing a signal or a pulse format,

select values representing a signal or a pulse format to be used to define in-phase and quadrature component values,

definine in-phase and quadrature component values using the selected values representing a signal or a pulse format,

define modulator output signal values by summing in-phase and quadrature component values while the number of in-phase and quadrature component values to be summed is determined by the number of inter-dependent symbols.